Sacramento Area Flood Control Agency

Mission and Vision of Ecosystem Restoration: An Overview

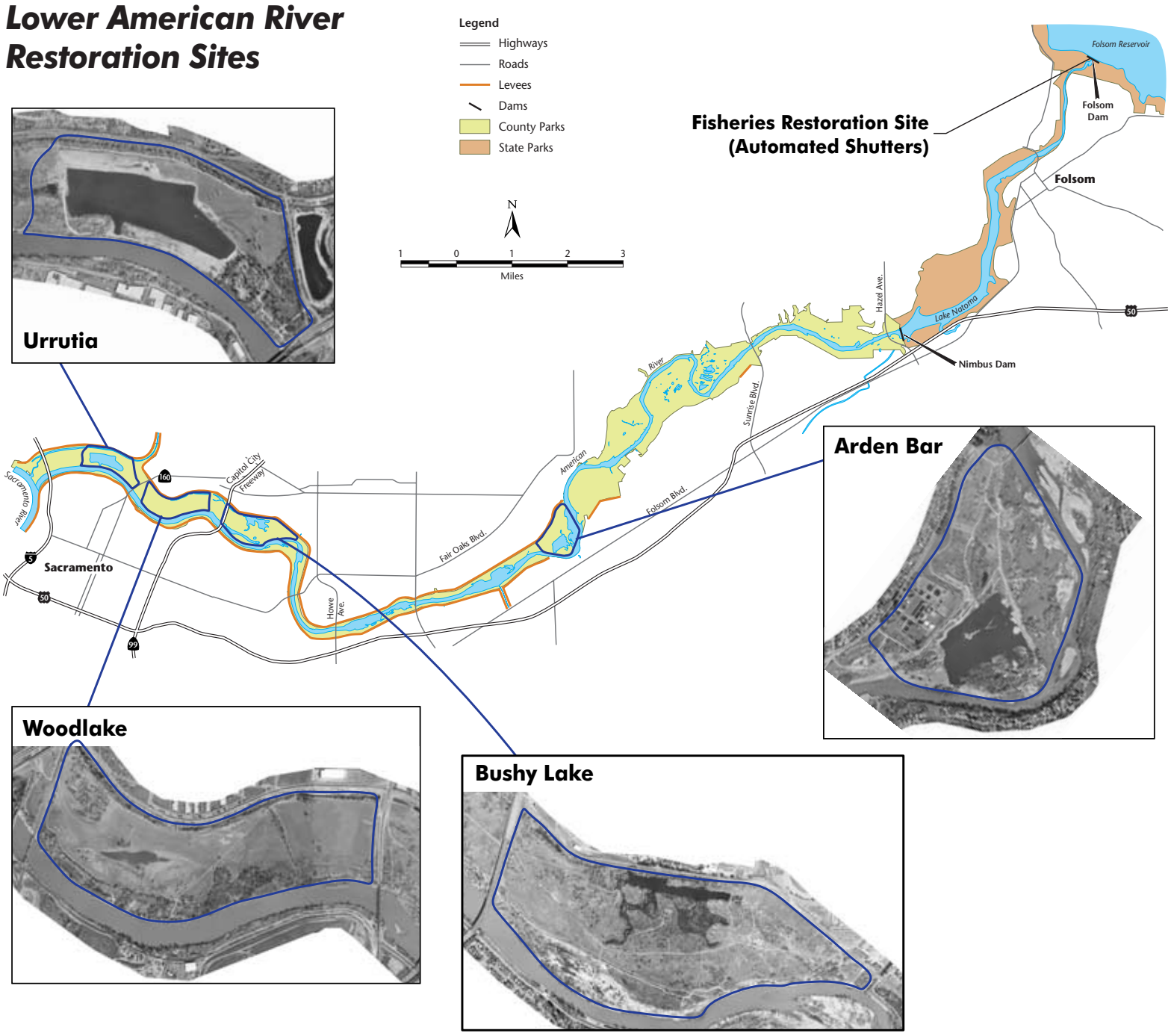
Ecosystem restoration is one of the primary missions of the U.S. Army Corps of Engineers' (Corps') Civil Works program.

The purpose of ecosystem restoration is to restore significant ecosystem function, structure, and dynamic processes that have been degraded. The intent of restoration is to reestablish the attributes of a functioning and self-regulating system.

The Corps' mission of protecting, restoring, conserving, and managing ecological resources has taken on greater importance over recent decades. The Lower American River study is an example of evaluating habitat restoration opportunities as part of a broader regional water resources management program authorized by Congress.

The purpose of ecosystem restoration efforts is to comprehensively examine the problems that contribute to system degradation and to develop alternative means of solving these problems.

Lower American River Restoration Sites



Ecosystem Restoration

Ecosystem Restoration Alternatives

The following alternatives were selected from an array of plans based on optimizing incremental costs and benefits expressed as an increase in average annual habitat units (AAHUs). These alternatives that comprise the National Ecosystem Restoration (NER) Plan.

The local sponsor can decide to implement all 5 alternatives that comprise the NER Plan or any combination or single alternative.

	Alt 9.1 Urrutia	**Alt 9.2** Woodlake	**Alt 9.3** Bushy Lake	**Alt 9.4** Arden Bar	**Alt 9.5** Folsom Dam Temperature Control Shutters
Total Cost (Millions)	$10.6	$2.6	$6.2	$2.8	$19.9
Non-Federal Cost Share (Millions)	$3.7	$0.9	$2.2	$1.0	$7.0
Benefit (AAHUs)	150.18	31.11	66.02	28.79	789.3
Purchase Land (acres)	251	283	347	280	
Eradicate Nonnative Invasive Plants (acres)	10	30	20	110	
Excavate Seed Bank (acres)			20	110	
Grade/Plant Riparian Forest (acres)	55	10	50	26	
Create Side Channels (acres)	30		4.25		
Terrace Steep Banks (acres)	21		6		
Construct Low-Level Bank Benches (acres)	4.5			1.5	
Seed Grassland (acres)		95			
Restore Connectivity (acres)		8.5			
Plant Riparian Forest (acres)		6			
Plant Oak Savanna (acres)		8	55	25	
Plant Oak Woodland (acres)		4	3		
Restore Emergent Wetlands (acres)			8		
Install Pump and Delivery System			yes		
Construct High-Flow Bypass Channel				7	
Plant Banks of High-Flow Bypass Channel (acres)				4.5	
Create Lentic Habitat at High-Flow Bypass Channel Outlet			yes		
Construct mechanized, sliding shutters to modernize existing penstock intake structures				yes	

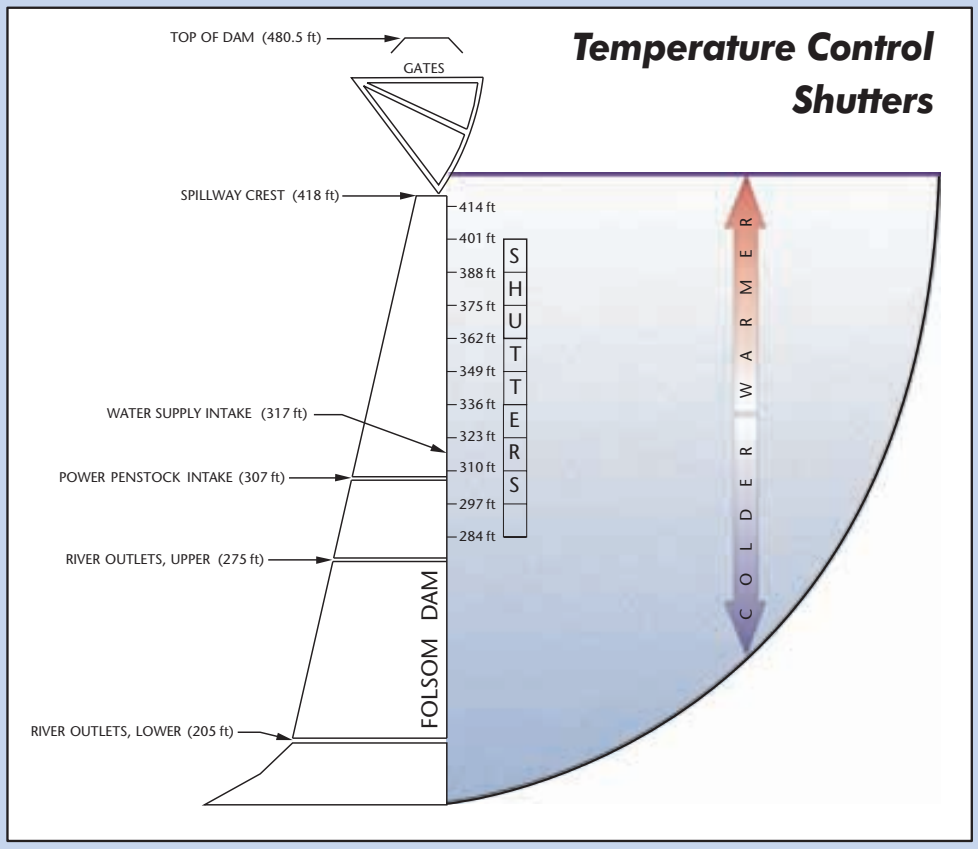
U.S. Army Corps of Engineers

Floodplain Restoration Objectives

- Restore diverse native plant communities.
- Restore native wildlife habitat.
- Establish connectivity between proposed and existing habitats.
- Reestablish hydrologic connection between the floodplain and the river channel.
- Reduce the potential for fish stranding on the floodplain.
- Restore shaded riverine aquatic habitat along the streambank.

Fisheries and Aquatic Restoration Objectives

- Improve adult anadromous salmonid migration.
- Increase spawning habitat for anadromous salmonid fish.
- Reduce anadromous salmonid egg mortality.
- Improve anadromous salmonid rearing habitat and juvenile outmigration.



Conclusions

- The National Ecosystem Restoration (NER) Plan is the plan that optimizes the total average annual habitat units (AAHUs) or benefits relative to costs. The NER Plan is used to define the federal interest in ecosystem restoration.
- In this instance, the NER Plan includes specific combinations of measures at each floodplain site (Urrutia, Woodlake, Bushy Lake, and Arden Bar) that contribute to the overall cost-effective restoration of riverine and floodplain habitat values and function on the floodplain sites.
- The NER Plan also includes mechanization of the Folsom Dam water temperature control shutters, which would effectively allow for coldwater management that is highly responsive to the life cycle needs of anadromous salmonids in the Lower American River.
- There is a Federal interest in supporting any one or all of the ecosystem restoration alternatives.